

Approach to "Weakness": Lower Motor Neuron disease

Signs of Upper Lower Neuron (LMN) Disease

(Generally due to loss of LMN stimulation of skeletal muscle)

- Hypo-reflexia (more UMN inhibition of reflexes)
- Flaccidity (↓ muscle tone, floppy noodle)
- Fasciculations (spontaneous muscle twitching)
- Muscle atrophy

No sensory loss

Accompanying Sensory Loss

Neuromuscular Junction disease

Ptosis, diplopia, dysarthria, dysphagia (PD3), respiratory weakness, proximal limb weakness
→ **Myasthenia Gravis**

Myopathy

(diffuse muscle weakness, but bigger proximal muscles are affected more; fatigue, muscle pain; + gower's sign: hard to stand when supine)
→ Inflammatory myopathy
→ Thyroid
→ Hereditary dx
→ Toxin
→ Metabolic

Muscular Dystrophy (MD)

(inherited disorders w/ genetic abnormalities. Muscle fibers are ineffective and die, replaced by connective tissue; causing muscle to hypertrophy despite being weak)
→ Duchenne's
→ Becker's
→ Myotonic
→ Other rarer MDs

Other myopathies

→ Inflammatory (Polymyositis, Dermatomyositis, Inclusion Body myositis, Polymyalgia Rheumatica)
→ Congenital
→ Membrane
→ Metabolic
→ Toxic

Spinal cord neuropathy

("levels" of sensory loss and weakness, sphincter dysfunction causing bladder/ bowel dysfunction)
→ Fully cut spinal cord
→ Brown-sequard syndrome (*half of spinal cord is cut, either L or R side*)
→ Syringomyelia (*central cord syndrome – only has sensory deficits*)

Peripheral neuropathy

Diffuse

(longest neurons affected first: stocking, then glove numbness/ weakness, hyporeflexia; pes cavus, hammer toe, etc)
→ Diabetes
→ Thyroid Disease
→ Hereditary diseases
→ Nerve inflammation
→ Toxin

Focal

(weakness, sensory deficit limited to within a single nerve territory)
→ Nerve inflammation, impingement, or cut
→ Toxin

Radiculopathy (nerve root issue)

→ Brachial plexus roots: C5-T1 (upper limb issues)
→ Lumbar plexus roots T12-L5, S1/2 (for lower limb issues: foot drop, weak quads)

Mononeuropathy (Single nerve problem)

→ Median nerve (Carpal tunnel syndrome)
→ Peroneal nerve issue (foot drop)
→ Femoral nerve issue (weak quads)

Distinguish via:

- Hx (radicular pain? Trauma?)
- PE (assess specific sensory dermatomes/ regions, motor function, and reflexes)